

RULES OFTM ***ENGAGEMENT*** **2**

DEVELOPER KIT



Developed and Published by Omnitrend Software, Inc.

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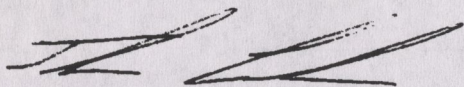
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DESIGNER'S NOTES

This is the very first time that Omnitrend has produced a Developer's Kit for any of our games. This developer kit is also special in that it very few copies of this exist. Whereas games are typically produced in quantities of 15,000 up to 50,000 copies, we are producing fewer than 30 copies of this kit. Although we do not expect it to become a collector's item, it is certainly qualifies as a "limited edition".

If you like the concept of this developer's kit, let us know. We will consider doing more for future IGS games. If there is anything else you would like to see included in future kits, let us know this as well.

Above all, have fun and be creative!



Thomas R. Carbone, President
Omnitrend Software, Inc.

SYSTEM REQUIREMENTS*Required*

- A copy of Rules of Engagement 2 version 1.05 or higher

Optional

- A paint program capable of editing GIF files
- A sound digitizer capable of generating VOC files
- A color digitizer for creating digitized photos
- An ANSI compatible terminal connected to a COM port

MAKING BACKUP DISKS

We suggest that you make back-up copies of all the developer kit disk(s) prior to installation. In the event of an accident, you will be able to restore the original disks from your back-up copy.

README FILE INFORMATION

If there is a README.TXT file on your developer kit disk 1, it will contain important information and instructions that were not available at the time this manual was printed. To read this file:

1. Insert the disk labeled "Disk 1" into drive A or B.
2. Type **type a:readme.txt** (**type b:readme.txt** if the disk is in drive B) and press RETURN.

INSTALLING THE DEVELOPER KIT

1. Place the disk labeled "Disk 1" in drive A or B.
2. Type **a:** then press RETURN. Your computer will respond with the prompt "A:\>". (If you are running the program from drive B, type **b:** and press RETURN. Your computer will respond with the prompt "B:\>".)
3. Type **install** and press RETURN.
4. Follow the instruction on your screen to install the developer kit.

WHAT'S IT ALL ABOUT?

This developer kit contains the following:

The "ATHENA IRS" Document

A document, provided in both ASCII text and Word for Windows 2 format, that details the entire history of the "Omnitrend Universe" from the games Universe III, Breach II, and Rules of Engagement II. The history is delivered in the form of an encyclopedia. With this information, you can devise stories that mesh with the history and technology of the Local Group.

Sound Effects Technical Information

This provides you with a layout of all the sound effects used in the game, allowing you to replace any existing sound effect with your own. You can even add your own voice for A.N.D.I. You will need VEDIT or other software capable of creating VOC files (VEDIT is the sound digitizer software supplied with the SoundBlaster cards).

Generic Ship Views

Many view of ships and other "spacey" images are provided in standard GIF format. These can be used in your own campaigns. Space is provided for adding your own text to these screens (a paint program capable of editing GIF files is required to add text).

All Game Graphics in GIF format

All of the game graphics are provided in GIF format, allowing you to change anything you want. Add your own ship designs, or even change the look of the quadpanels! (a paint program capable of editing GIF files is required to edit the graphics)

Graphics Converter

Programs that will allow you to convert the GIF format game graphics into the formats used by the game.

Digitized Picture Technical Data

All the information you need to digitize your own picture into the game.

Special Alien Forms

There are 14 "special" alien forms reserved for future use. You can use any or all of these to add your own depictions of aliens. (a paint program capable of editing GIF files is required to edit the graphics)

Editing Forms

These forms make creating missions, campaigns, ship parts, and many other game items much easier. There is no restriction on duplication, so you can make as many copies of these as you need.

ANSI Debug Support

If you have an ANSI compatible terminal hooked up via a COM port, you can call up fully formatted screens of information on what the AI is doing during a game!

System Graphs

Graphs of COMSEN, Drive, and Weapons system parts for FW and Enemy ships and their statistics. This makes it much easier to design ships for specific tasks. There is also a graph for missile statistics.

Breach 2 Template Scenarios

Breach 2 scenarios with pre-made maps of ships and outposts. You can use these scenario files as starting points for your own custom scenarios.

WHAT'S INCLUDED

The developer's kit includes many files to help you create and customize your missions, campaigns, and the game itself. After installation, you developer kit directory will contain the following subdirectories:

SOURCE	Contains all the GIF format source graphics for the game
SFX	Contains the sample sound effect for the developer kit
ALIENS	Contains the files necessary for creating custom alien forms
PARTS	Contains the sample files for editing ship parts and missiles
ATHENA	Contains the Athena IRS documents
PICS	Contains generic GIF format pictures to use in campaigns
BREACH2	Contains the Breach 2 template scenarios
ANSI	ANSI debugging version of the game file ROE2MAIN.EXE

The main installation directory contains the graphics conversion programs GIF2DAT and GIF2BIT.

ATHENA IRS

The Athena IRS document is a history of the universe in the format of an encyclopedia. You will find two files in the ATHENA subdirectory of your developer kit installation:

ATHENA.DOC	This is a Word for Windows 2 format document
ATHENA.TXT	The same document in simple ASCII text form

GAME GRAPHICS TECHNICAL NOTES

The graphic files for Rules of Engagement 2 reside in the GRAPHICS directory. Two file extensions, DAT and BIT, are used. DAT format files are compressed graphic images, while BIT format files are uncompressed graphic images.

BIT format files are *much* quicker to load than DAT files. For this reason, all of the graphics for the "quadpanels" are stored as BIT`s. This makes loading quadpanels much faster than if they were DAT`s. All of the remaining game graphics are stored in DAT files.

The graphics file names adhere to the following format:

B???-??

For example, the graphics for the NAVMAP quadpanel is in the file B301-01.BIT.

The first set of three question marks contain the section number of the game that the graphics are used in. These section numbers are:

Section	Name	Format
000	Opening Logo Screen	DAT
101	Main Game Screen	DAT
102	Game Assignment and Deployment	DAT
201	Recruiting / Officer`s Quarters	DAT
202	FWAF Captain Builder	DAT
203	FW Ship Builder	DAT
204	Alien Faction Builder	DAT
205	Map / System Builder	DAT
206	Campaign Builder	DAT
207	Alien Ship Builder	DAT
208	Mission Builder	DAT
300	Master Control Bar	DAT
301	NAV (Navigation)	BIT
302	COM (Communications)	BIT
303	TAC (Tactical)	1-5 BIT, 6-11 DAT
304	DAT (Data Retrieval)	BIT
305	DRP (Docking / Repair)	BIT
306	EMR (Emergency Systems)	BIT
311	FULNAV	DAT
314	FULDAT	DAT

The two question marks after the dash contain the id number of the graphic for that section. Some sections have only a few files, others have tens of files. The id`s always consist of two characters, with id`s less than ten preceded by a zero.

As our example indicated, B301-01.BIT contains the graphics for the NAVMAP panel. Section 301 has a total of three files associated with it. They are:

B301-01	NAVMAP
B301-02	NAVHLM
B301-03	NAVSEN

The developer kit includes GIF format files of all the BIT and DAT graphics that come with the game. You will find these in the SOURCE subdirectory of your developer kit installation. Using the GIF files, you can modify any of the game graphics you desire. Once modified, you will need to convert the file into either a DAT or BIT format file. Use the chart above to determine if the file`s section requires a BIT or a DAT (Note: Section 303 uses both formats: 1-5 are BIT`s and 6-11 are DAT`s).

Two format conversion utilities are included with the developer kit for converting the GIF's. They are:

GIF2DAT	Converts GIF to DAT
GIF2BIT	Converts GIF to BIT

To run one of these programs, simply type its name followed by the name of the file you wish to convert. For example, if you had edited B301-01.GIF and wanted to use it in the game, you would type "GIF2BIT B301-01.GIF". The file would be converted into B301-01.BIT. The original GIF file is left intact.

Once converted, you will need to copy the resulting BIT or DAT file into the game's GRAPHICS directory.

Note: When editing one of the game's graphics files, you *must not* change the palette. This is fixed in the game and cannot be altered.

There are several sections in this manual that provide further details on modifying the game graphics. Sections on digitized photos, ship images used in TACFIR, and alien images are documented in subsequent sections.

MAKING YOUR OWN SHIPS DESIGNS

With the source graphics and utilities that come with this kit, you can create your own ship designs. However, this is not a simple process. The ships that come with the game were created using expensive 3D modeling software. If you have any artistic ability, you can draw your own ships without such sophisticated tools.

The ship designs reside in several of the graphic image files in the GRAPHICS directory. These are:

B203-04.DAT	Images of FW ships for the FW ship builder
B207-02.DAT	Images of Enemy Fleet 1 for the alien ship builder
B207-03.DAT	Images of Enemy Fleet 2 for the alien ship builder
B207-04.DAT	Images of Enemy Fleet 3 for the alien ship builder
B303-06.DAT	Images of FW ships for the TACFIR panel
B303-08.DAT	Images of Enemy Fleet 1 for the TACFIR panel
B303-09.DAT	Images of Enemy Fleet 2 for the TACFIR panel
B303-10.DAT	Images of Enemy Fleet 3 for the TACFIR panel
B314-02.DAT	Images of FW ships for the FULDAT panel

In addition, allowance is made for a total of up to nine enemy ship fleets. The game comes with three, so you may add up to six more of your own. To do this, you simply add additional graphics files to the GRAPHICS directory. For example, to add a fourth fleet, you would need to provide the files B207-05.DAT and B303-11.DAT.

When viewing the 303 section graphics files, you will note that graphics for the EBW image and missiles firing views are present. These must be on all the section 303 files that have ship images, even if you create new ones.

Each section 303 file contains the ship images for an entire fleet, each fleet containing 6 classes of ships. There are 9 different images for each ship class, and each image is 40x24 pixels. These are arranged starting from the top left and going across the screen, then to the next row. The ordering is: Transport, Scout, Destroyer, Cruiser, Heavy Cruiser, Dreadnought.

Each of the nine views depicts the ship from a different vantage point. The first image looks at the ship "nose on". Then, the ship is viewed moving around toward the port (left) side until the ninth image is looking at the ship's stern. Each view, therefore, represents 20 degrees of rotation around the ship.

When the ship is viewed in the game, the computer "flips" the image of the ship to represent the starboard (right) side views. For this reason, it is important that your ship designs be symmetrical about a vertical plane through the centerline.

TR	TR	TR	TR	TR	TR	TR	TR
TR	SC	SC	SC	SC	SC	SC	SC
SC	SC	DE	DE	DE	DE	DE	DE
DE	DE	DE	CR	CR	CR	CR	CR
CR	CR	CR	CR	HV	HV	HV	HV
HV	HV	HV	HV	HV	DR	DR	DR
Debris	EBW				DR	DR	DR
	Missiles				DR	DR	DR

Ship Graphic Images Format

CREATING YOUR OWN ALIEN FORMS

The game allows for a special set of 14 enemy forms that you can use for your own custom missions and campaigns. Unlike all other enemy images, these are *not* composed of separate arms, legs, heads, and torsos. Instead, they are complete, pre-drawn images.

These special alien forms are contained in the graphic image file B2O4-O5.DAT. A sample file is included with the developer kit in B2O4-O5.GIF.

Names for these special alien forms must be created in a file called ALIENS.DAT. This file should then be located in the main directory for the game. A sample ALIENS.DAT file that matches the sample alien forms is included with this kit. These sample aliens are:

- 'EJYO` DMI` (Klingonee for "Starfleet Commander")
- TERRAN
- TLHINGAN (Klingonee for "Klingon")
- FWRP
- FWSF MARINE
- ROMULUSNGAN (Klingonee for "Romulan")
- OVERLORD
- UDP MARAUDER
- MARVIN MARTIAN (From the Bugs Bunny cartoons)
- UNITED PLANETS (From "Forbidden Planet")
- ROBBY ROBOTS (Also from "Forbidden Planet")
- GORT (From "The Day the Earth Stood Still")
- METALUNAN MUTANT
- CONRAD NEAL (The designer`s dog in formal attire)

Note: The names for the special alien forms must be in uppercase only.

To use one of these special aliens, you must create an alien faction and name it using one of the names in ALIENS.DAT. While in the alien faction builder, you will not see the special form. In fact, don`t bother assembling parts for the faction at all, since they will not be used once you get into a game. Once in a game, then alien will appear as the special alien form you selected by name.

For example (using the sample alien forms), if you create a race named "ROBBY ROBOTS", when you play a game using this faction as the hostile or neutral, you will see the image from B2O4-O5.DAT instead of the assemblage of parts from the alien faction builder.

DIGITIZED PHOTO TECHNICAL INFORMATION

Adding your own digitized photos to the game is a straightforward process. The digitized photos for the FW ship captains and the fleet commanders are 49x49 pixels in 32 colors. Each photo can have its own 32 color palette.

You must first obtain a file with a scanned image of the photo you desire. For the game photos, we took pictures with a conventional 35mm camera, and had the photos developed onto Photo CD. You can also use a color scanner to scan a printed photo.

Next, the image must be cropped to just the face and reduced to 49x49 pixels. Typically, we would bring in Photo CD scanned images that had a facial area of about 400x400 pixels. We used Aldus PhotoStyler to do the resolution reduction, although there are many image and paint programs that will do this. Color reduction is a bit trickier. Our scanned images were 256 colors. To reduce them to 32 colors, we used a program called "convert" from Electronic Arts. Again, however, there are many programs that will do this as well.

The photo, although 49x49 pixels, must be stored on a 320x200 pixel, 256 color bitmap. The photo should be placed in the upper left corner, starting at (0,0). The colors for the photo should use color registers 160-191. A second, identical copy of the photo should be placed directly below the first (with a one pixel-wide space) at (0,50). This copy of the photo should use color registers 192-223.

Admittedly, this is a convoluted procedure and a bit difficult to achieve by those not familiar with graphics and graphics software. If you really want to give this a try and have any more questions, please let us know. We would be happy to assist you.

DIGITIZED PHOTO STORAGE

As described in the previous section, the digitized photos are each located on a 320x200 256 color bitmap. In the game, there are 8 photos for fleet commanders and 48 photos for ship captains. All photos are stored in files under the GRAPHICS directory. The fleet commander photos are stored in the files B201-05.DAT thru B201-12.DAT. The ship captain photos are stored in the files B202-06.DAT thru B202-53.DAT. Additionally, if you change one or more of the ship captain photos, you may want to change its "thumbnail" black and white representation in the file B202-05.DAT.

As with the other game graphics, the developer kit provides you with GIF format files of all the digitized photos. The GIF2DAT program will allow you to convert your own photo in GIF format to the game's DAT format. Additionally, feel free to modify the photos that come with the game and convert them back to DAT's.

EDITING PARTS AND MISSILES

You can modify any of the existing ship parts and missiles very easily. When you run the game, it looks for several special data files that contain the modified stats. These files must be located in the main game directory.

Each file is in ASCII format and can be edited with a standard text editor. There is one line per part or missile, and each stat is separated by a comma. Sample files are included with the developer kit that contain the stats for the parts and missiles that come with the game. You should use these files as a starting point for editing items.

The "size" stat for ship parts take some further explanation. The value for this stat is a "coded" value that represents which ship classes can use the part. To construct this value, add up the code value for each ship class that you want this part to be used on. The code values are:

<u>Class</u>	<u>Code</u>
Transport	32
Scout	16
Destroyer	8
Cruiser	4
Heavy Cruiser	2
Dreadnought	1

For example, if you wanted a part to be usable on a destroyer and a cruiser, the coded size value would be $8 + 4 = 12$.

The files scanned for are:

MISSILES.DAT

FW and UDP Missile Data

18 Items

<u>Stat</u>	<u>Units</u>	<u>Range</u>
Sophistication	Points	0-99
Damage	Points	0-255
Accuracy	Percent	0-100
Range	Tenths Seconds	0-510

CMS.DAT

FW and UDP ComSen Parts

14 Items

<u>Stat</u>	<u>Units</u>	<u>Range</u>
Resource Points	Points	0-255
Damage Points	Points	0-255
Sophistication	Points	0-99
Mass Points	Points	0-255
Size	Coded Size	0-255
Max. Interference	Units	0-99
Base Signal	Units	0-99
Scan Radius	Millions of Kilometers	0-255
Drone Quantity	Number of	0-99
Jam Level	Units	0-9
Stealth Capability	0=No, 1=Yes	0-1

CMP.DAT**FW and UDP Computer Parts****16 Items**

<u>Stat</u>	<u>Units</u>	<u>Range</u>
Resource Points	Points	0-255
Damage Points	Points	0-255
Sophistication	Points	0-99
Mass Points	Points	0-255
Size	Coded Size	0-255
GigaOps	GigaOps	0-9999

LIF.DAT**FW and UDP Life Support Parts****12 Items**

<u>Stat</u>	<u>Units</u>	<u>Range</u>
Resource Points	Points	0-255
Damage Points	Points	0-255
Sophistication	Points	0-99
Mass Points	Points	0-255
Size	Coded Size	0-255
Min. Functional Level	DP`s	0-99

SHL.DAT**FW and UDP Shield Parts****19 Items**

<u>Stat</u>	<u>Units</u>	<u>Range</u>
Resource Points	Points	0-255
Damage Points	Points	0-255
Sophistication	Points	0-99
Mass Points	Points	0-255
Size	Coded Size	0-255
Shield 1 Blockage	DP`s	0-127
Shield 2 Blockage	DP`s	0-127
Shield 3 Blockage	DP`s	0-127
Shield 4 Blockage	DP`s	0-127

WPN.DAT**FW and UDP Weapons Parts****20 Items**

<u>Stat</u>	<u>Units</u>	<u>Range</u>
Resource Points	Points	0-255
Damage Points	Points	0-255
Sophistication	Points	0-99
Mass Points	Points	0-255
Size	Coded Size	0-255
Missile 1 Capacity	Quantity of	0-99
(repeat above for the 8 other missiles)		
EBW Strength	DP`s	0-99
Mines	Quantity of	0-99
Decoys	Quantity of	0-99

DRV.DAT**FW and UDP Drive Parts****20 Items**

<u>Stat</u>	<u>Units</u>	<u>Range</u>
Resource Points	Points	0-255
Damage Points	Points	0-255
Sophistication	Points	0-99
Mass Points	Points	0-255
Size	Coded Size	0-255
Max. Velocity	Percent of Light-Speed	0-99
Acceleration	c/s ²	0-999
Hyperdrive Delay	Seconds	0-999

PPS.DAT**FW and UDP Primary Power Parts 10 Items**

<u>Stat</u>	<u>Units</u>	<u>Range</u>
Resource Points	Points	0-255
Damage Points	Points	0-255
Sophistication	Points	0-99
Mass Points	Points	0-255
Size	Coded Size	0-255
Efficiency	Percent	0-99
Blast Radius	Millions of Kilometers	0-127
Primary Radius	Hundred Thousand Km	0-127

EPS.DAT**FW and UDP Emerg. Power Parts 10 Items**

<u>Stat</u>	<u>Units</u>	<u>Range</u>
Resource Points	Points	0-255
Damage Points	Points	0-255
Sophistication	Points	0-99
Mass Points	Points	0-255
Size	Coded Size	0-255
Efficiency	Percent	0-99
Replication Rate	Relative Value	0-99
Bulk Storage Capacity	Units	0-999

HUL.DAT**FW and UDP Hull Parts****12 Items**

<u>Stat</u>	<u>Units</u>	<u>Range</u>
Resource Points	Points	0-255
Damage Points	Points	0-255
Sophistication	Points	0-99
Mass Points	Points	0-255
Size	Coded Size	0-255
Durability	Relative Value	0-99

Note: Items with units of "relative value" have no meaning by themselves. The values are used for comparison from one part to another.

If you enter a value for a part that is outside the range for that stat, the value will be set to the closest boundary. For example, if you entered 300 for the Mass Points of a part, the computer would set the MP value to 255.

DIGITIZED SOUND EFFECTS TECHNICAL INFORMATION

The digitized sound effects for the game are stored in the SOUND directory. Each sound effect is stored in a separate file.

The first six sounds are "standard" sounds, with the remaining twenty being "extended" sounds. Standard sounds are the collection of sound effects which will always be played regardless of how much XMS is available, since they can be loaded into conventional memory if insufficient XMS is present. Extended sounds are only loaded if there is enough XMS available.

On game startup, the program tries to load the 26 standard and extended sound effects into XMS if an XMS driver is found. If there is not enough memory to hold them, the effects are dumped. Then, only the standard sound effects are loaded into conventional memory.

There are two sets of sound files, A and B. The A sound files are the ones used if all sounds (standard and enhanced) are loaded into XMS. The B sound files are the ones used if sounds must be loaded into conventional memory. Therefore, the B sound files only exist for the standard sounds. There are 26 A files and 6 B files.

The B files are generally smaller and of lower quality. The game only allots 37,000 bytes for conventional memory sounds. The total size of all six B sounds must be less than or equal to this amount.

The A and B sound files are stored in the filename pattern SFX???.VOC. For example, sound 15 from the A set is in the file SFX15A.VOC. Sound 3 from the B set is in the file SFX03B.VOC.

The sounds and their uses are described as follows:

1. *EBW firing*
Used when the EBW FIRE button on TACFIR is pressed
2. *Missile firing*
Used when the EBW FIRE button on TACFIR is pressed
3. *Hit on Shield*
Used when the flagship is hit with EBW or missile fire and the shield hit is up
4. *Hit on Hull*
Used when the flagship is hit with EBW or missile fire and the shield hit is down
5. *Red alert klaxon*
Used when the red alert message appears (when a new enemy ship enters sensor range)
6. *Explosion*
Used when a ship targeted in TACFIR explodes
7. *Communications Transmitter*
Triggered by the COMXMT SEND button
8. *Navigational ping*
Used on NAVMAP when PRJ is activated
9. *Boson`s whistle*
Used when the hyperdrive is activated (on the NAVHLM panel)
10. *Door opening*
Used in EMRDES when the panel opens up, and in the FW ship builder when exiting
11. *Error tone*
Used in many places to signify that the button press is invalid
12. *Shields up*
Used when raising shields on the TACDEF panel
13. *Shields down*
Used when lowering shields on the TACDEF panel
14. *Trawling System*
Used when turning the trawling system on or off on the DRPREP panel
15. *Tractor beam on*
Used when engaging the tractor beam on the DRPTOW panel
16. *Tractor beam off*
Used when disengaging the tractor beam on the DRPTOW panel
17. *Launch drone*
Used when launching a drone on the NAVSEN or FULNAV panels
18. *Launch mine/decoy*
Used when launching a drone on the NAVSEN or FULNAV panels
19. *Transporter*
Used when activating the ship`s transporters on the DRPCGO panel
20. *Laser fire*
Used during the boarding of a ship or an outpost
21. *FW marine scream*
Used when an FW marine is killed during boarding of a ship or an outpost
22. *Enemy marine scream*
Used when an enemy marine is killed during boarding of a ship or an outpost
23. *Button tone 1*
Used at several points in the game when a button is pressed
24. *Button tone 2*
Used at several points in the game when a button is pressed
25. *Button tone 3*
Used at several points in the game when a button is pressed
26. *Button tone 4*
Used at several points in the game when a button is pressed

USING YOUR OWN DIGITIZED SOUNDS

You can replace the existing digitized sound effects with your own. To do this, you must replace the existing sound files with ones that match the following specifications:

- 8-Bit
- Monophonic
- Sampling rate of either 7.35 kHz or 11.025 kHz
- No compression

You must match these specifications or else the sound files may not play correctly on all sound boards. Note that some sound recording software refers to 7.35kHz as "7 kHz" and 11.025 kHz as "11 kHz". This is of no concern.

Sound files must be in Creative Lab's VOC format. If using a SoundBlaster board, we recommend the use of Creative Lab's VEDIT program, which allows you to record and playback VOC files.

The developer kit includes four replacement sound effects for sounds 1, 7, 10, and 17. These can be found in the SFX directory of your developer kit installation. To use these sounds, simply copy them into the SOUND directory. This is all you need to do to make use of sounds you digitize as well. You may want to make a backup copy of the original game sound files before overwriting them.

A.N.D.I. TECHNICAL INFORMATION

The digitized speech for A.N.D.I. is stored in the SOUND directory. Each word in A.N.D.I.'s vocabulary is stored in a separate file. There are 92 files in all with the name pattern AM???.VOC, where ?? is from "01" to "92". The table below lists the spoken word contained in each file.

1. Red	32. Failure	63. Repairs
2. Alert	33. Fire	64. Respond
3. Damage	34. Firing	65. Re supply
4. Acquisition	35. Forces	66. Sensor
5. Activated	36. FW	67. Shields
6. Affirmative	37. Hostile	68. Ship
7. Anomalous	38. Imminent	69. Ships
8. Approaching	39. In	70. Status
9. Armed	40. Incoming	71. System
10. Auto	41. Insufficient	72. Systems
11. Beyond	42. Intercepted	73. Target
12. By	43. Intercepting	74. To
13. Captured	44. Life	75. Unable
14. Closing	45. Malfunction	76. Under
15. COMM	46. Maximum	77. Unknown
16. Complete	47. Message	78. Velocity
17. Comply	48. Minimum	79. Vessel
18. Computer	49. Missile	80. Weapons
19. Control	50. Mission	81. Warning
20. Damaged	51. Negative	82. Zed
21. Danger	52. Neutral	83. Zero
22. Destroyed	53. Number	84. One
23. Destruct	54. No	85. Two
24. Disabled	55. Off	86. Three
25. Drive	56. Out	87. Four
26. EBW	57. Outpost	88. Five
27. Emergency	58. Range	89. Six
28. Enabled	59. Reading	90. Seven
29. Enemy	60. Received	91. Eight
30. Error	61. Receiving	92. Nine
31. Exhausted	62. Repaired	

All words are digitized at 8-bit resolution, monophonic, at a sampling rate of 11.025 kHz. No compression is used.

REPLACING A.N.D.I. WITH A CUSTOM VOICE

You can replace the existing digitized speech with your own. To do this, you must replace the existing sound files with ones that match the following specifications:

- 8-Bit
- Monophonic
- Sampling rate of either 7.35 kHz or 11.025 kHz
- No compression

You must match these specifications or else the sound files may not play correctly on all sound boards. Note that some sound recording software refers to 7.35kHz as "7 kHz" and 11.025 kHz as "11 kHz". This is of no concern.

Sound files must be in Creative Lab's VOC format. If using a SoundBlaster board, we recommend the use of Creative Lab's VEDIT program, which allows you to record and playback VOC files.

Each sound file should contain a brief pause at the end of the word to allow the words to combine more naturally into sentences.

ANSI TERMINAL DEBUGGER

The special version of the game included with the developer kit add support for a remote "debugging" terminal. This terminal has the capability of displaying 5 different screens of information on the ships and the decision making process of the captains.

To use this feature, you must have an ANSI compatible terminal (such as a DEC VT-100). This means that the terminal must be capable of interpreting the standard ANSI commands for cursor positioning and other screen functions.

This terminal must be connected to your computer though a serial port. Before running the game, you must be sure that the parameters of the serial port (BAUD rate, word length, and parity) are set to that of your terminal. You should use the highest BAUD rate possible, since slower rates will in turn slow down the game.

When you wish to use the debugging terminal, you will need to run the game not by typing "RULES2", but by the command:

ROE2MAIN COM?

For example, if your ANSI terminal is connected to COM2, you would type "ROE2MAIN COM2". Normally, when you run RULES2, an IGS loader program is executed. Since running the debugging terminal requires bypassing the RULES2 program, you will not be able to run any IGS links. The rest of the game will function normally.

Note: The ANSI subdirectory of your developer kit installation contains the special debugging version of the game. You must use this version of ROE2MAIN by copying it into your game directory. You should save your normal ROE2MAIN elsewhere and restore it when you are done using the debugging terminal.

Once you begin or resume a game, and have the master control bar up, you may use the terminal to access five different screens of information. Each screen is accessed by pressing function keys F1 to F5 on the terminal. These screens are:

Screen 1 (F1)

This screen contains a list of all of the ships in the game, constantly updated with the following information:

- X and Y coordinate within the solar system
- Velocity in hundredths of light-speed (c)
- Heading in degrees
- Goal of the ship (goal codes are listed at the end of this section)
- Parameter for the goal
- Quantity of each type of missile

Screen 2 (F2)

This screen also contains a list of ships (minus the flagship) and is updated constantly. There will be one column for each enemy ship and outpost in the system. The numbers in each column represent the ship captain's desire to attack the object associated with the column. The higher the number, the more desirous it is to attack the object.

Screen 3 (F3)

Unlike the previous two screens, this screen is a scrolling display. Each time a missile, EBW, or mine hits a ship or an outpost, a line will appear similar to:

F1 hit with type 12 EBW, shield 2, 1345 blocked, 12563 damage

In this example, ship FO1 was hit with an enemy type 2 EBW (There are 10 FW weapon systems, so the ten enemy weapon systems are considered to be types 11-20). The hit was sustained on shield #2. 1,345 units of damage were blocked by the shield, and 12,563 units of damage were sustained by systems on the ship.

Note: Each system on the ship, when at 100% operation, 10,000 "units of damage". This means that a hit of 1,000 units of damage would bring the part down to 90% operation. Outpost shields can sustain 20,000 units of damage. Once the outpost shields are down, the outpost can sustain another 20,000 units of damage before being destroyed.

Screen 4 (F4)

This is also a scrolling display. Each time a ship captain, FW or enemy, makes a decision to change his/her goal, the results of the decision process are displayed.

Each decision consists of a ship ID followed by many groups of three numbers set off in parenthesis. Each group represents a possible decision by the ship. For example, for an FW ship:

(53,6,2)

This indicates that the ship has a desire factor of 53 to do goal code 6 (Resupply at Ty) with parameter (y) of 2. In other words, the ship has a desire of 53 to resupply at outpost T02.

The higher the desire factor, the more the captain wants to perform the goal. At the end of the line, a single element will be displayed such as:

(D3)

This indicates that the ship decided to do goal 3.

Screen 5 (F5)

Like the first two screens, this screen contains a list of all of the ships in the game, constantly updated with the operational status of the nine systems on board the ship.

The goal codes displayed on screens 1 and 4 are as follows:

FW Goals

0	Hold for orders	22	Trawl asteroid field Ay
1	Go to waypoint Xy	23	Protect outpost Ty
2	Capture outpost Ty	24	Disable enemy ship Ey
3	Capture enemy ship Ey	25	Disable FW ship Fy
4	Destroy enemy ship Ey	26	Intercept enemy ship Ey
5	Patrol for enemy ships	27	Intercept FW ship Fy
6	Resupply at Ty	28	Shado enemy ship Ey
7	Send distress signal and wait	29	Shado FW ship Fy
8	Surrender to enemy ship Ey	30	Escort FW ship Fy
9	Hold position	31	Tow FW ship Fy
10	Group with Gy	32	Goto NavPoint
11	Form a battle group	33	Plant drone
12	Destroy outpost Ty	34	Plant mine
13	Capture cargo from outpost Ty	35	Pickup pod Zy
14	Capture enemy cargo from Ey	36	Hyperdrive from system
15	Pickup cargo from Ty	37	Abandon ship
16	Pickup cargo from Py	38	Evacuate crew from FW ship Fy
17	Pickup cargo from Ey		
18	Pickup cargo from Xy		
19	Deliver cargo to waypoint Xy		
20	Deliver cargo to planet Py		
21	Deliver cargo to outpost Ty		

Enemy Goals

- 0 Hold position
- 1 Guard waypoint Xy
- 2 Guard outpost Ty
- 3 Guard ship Ey
- 4 Patrol outposts
- 5 Patrol planets
- 6 Resupply at Ty
- 7 Send distress signal and wait
- 8 Surrender to FW forces
- 9 Hide in field Ay
- 10 Attack Fy
- 11 Destroy outpost Ty
- 12 Trawl asteroid field Ay
- 13 Accepted offer from FW of safe passage, holding

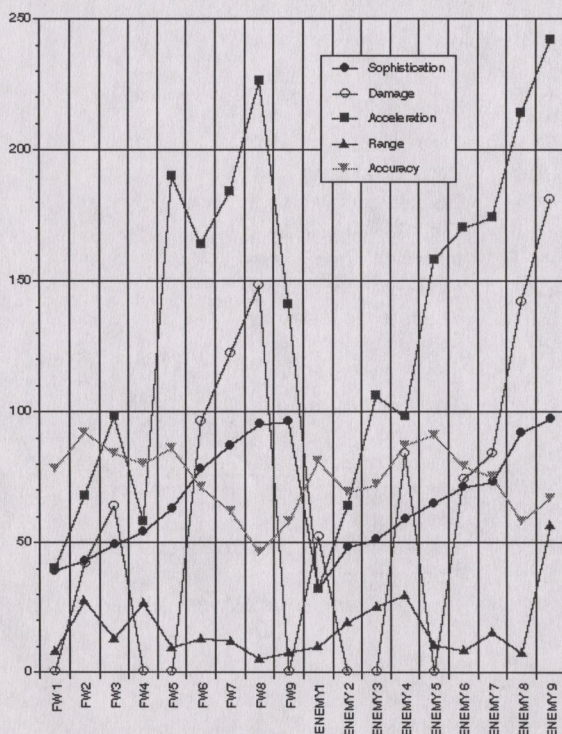
Note: Goals that contain a "y" such as "Destroy outpost Ty" have this parameter displayed on screen 1 under the heading "PAR".

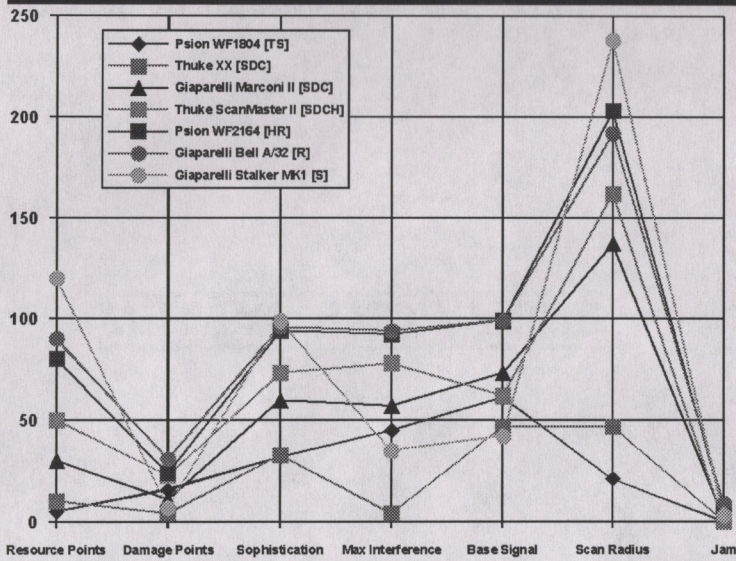
BREACH 2 TEMPLATE SCENARIOS

The BREACH2 directory of your developer kit installation contains the following Breach 2 scenarios:

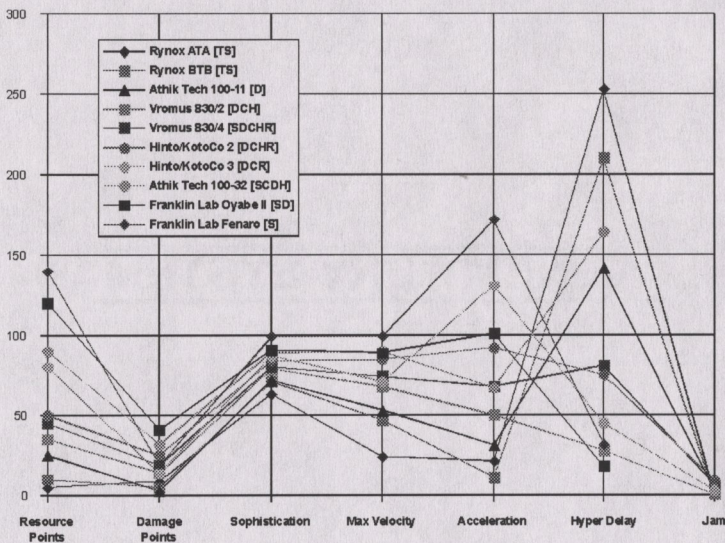
Name	File Name	Description
Transport	TRANSPOR.B2S	Template for an enemy transport
Scout	SCOUT.B2S	Template for an enemy scout
Destroyer	DESTROYE.B2S	Template for an enemy destroyer
Cruiser	CRUISER.B2S	Template for an enemy cruiser
Heavy Cruiser	HEAVY.B2S	Template for an enemy heavy cruiser
Dreadnought	DREADNOU.B2S	Template for an enemy dreadnought
Space Based Outpost	SPACE.B2S	Template for a space-based outpost
Land Based Outpost	LAND.B2S	Template for a land-based outpost

You can use these scenarios as starting points for creating your own IGS links.

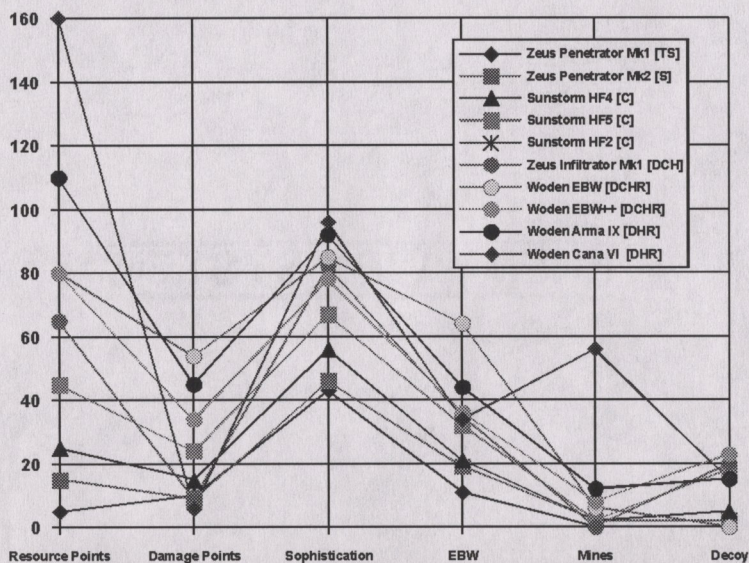
**MISSILES**



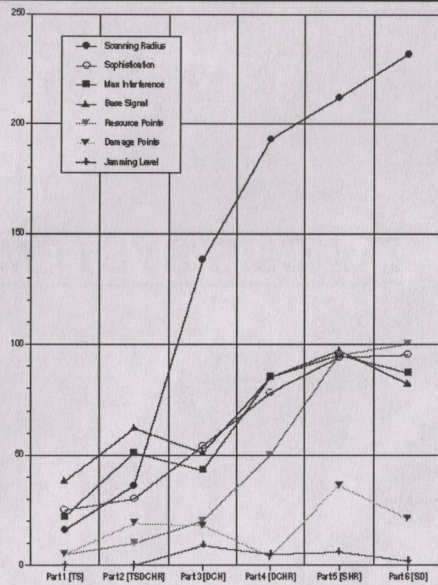
FW CMS SYSTEM



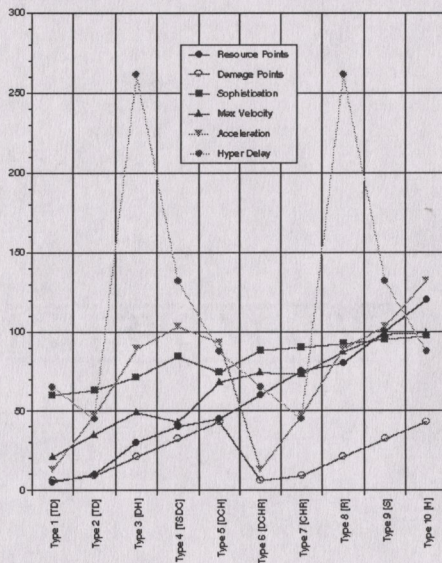
FW DRV SYSTEM



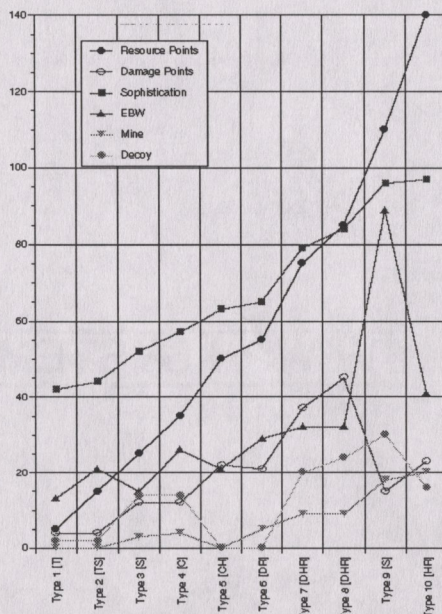
FW WPN SYSTEM



ENEMY CMS SYSTEM



ENEMY DRV SYSTEM



ENEMY WPN SYSTEM